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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,992	04/12/2005	Yoshiyuki Udagawa	258513US0PCT	1958
22850 7590 01/22/2008 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER WYROZEBSKI LEE, KATARZYNA I	
			ART UNIT 1796	PAPER NUMBER
			NOTIFICATION DATE 01/22/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/506,992

Applicant(s)

UDAGAWA ET AL.

Examiner

Katarzyna Wyrozebski

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/21/07; 11/22/07; 9/9/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Note: Applicant's claim 1 recited an inorganic compound (I) or inorganic material capable of forming (I). Term "capable" is viewed as statement of ability and not actual process, therefore in view of the open language of the claim, compound (I) is not required component of the composition.

In addition, since the process of claim 1 does not depict any sequence of steps, the prior art of record that teaches stepwise as well as simultaneous mixing process is applicable against present claims.

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 12 and 20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 6,727,307. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following explanation.

Patented invention '307 discloses rubber composition comprising inorganic compound of the present invention, wherein the rubber is emulsion polymerized. The rubber of '307 also contains polar group.

In the light of the above disclosure, since patentable weight is given to the product and not to the process by which it is made, composition of the instant invention is already disclosed in patented invention '307.

3. Claims 1-20 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-14, 19-51 of copending Application No. 10/129,330. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following explanation.

The co-pending invention '330 discloses process for making diene based rubber composition as well as the composition itself. The composition comprises inorganic materials required by the claims of the present invention.

One difference is that independent claims do not specifically disclose use of anionic compounds. However such compound would be obvious to one having ordinary skill in the light of following explanation: Rubber composition of '330 is formed by utilizing dispersion and it is also emulsion polymerized. There fore two types of emulsion polymerization one is cationic and second is anionic, therefore use of cationic or anionic surfactant would have been implied. Such compounds are also further present in coagulation process or precipitation from solution. Co-pending invention '330 further teaches addition of ionic compounds to the dispersion of inorganic compound.

In the light of the above discussion it would have been obvious to one having ordinary skill in the art at the time of the instant invention, that while practicing claims of the invention at hand one would arrive at already filed application '330.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for

patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-10, 12 are rejected under 35 U.S.C. 102(a) as being clearly anticipated by KONDO (US 6,727,307).

Patented invention discloses process of making rubber composition, where the diene based rubber is emulsion polymerized and grafted with polar monomer (col. 6-7). Emulsion is polymerization is conducted in presence of anionic compound or anionic surfactant such as rosinate or salt of long chained carboxylic acid (stearic, lauric, oleic e.t.c. see col. 8).

Filler and specific amounts are disclosed in col. 9, aluminum based filler being preferred.. Coupling agent may be utilized in improve adhesion between rubber and filler (col. 10). Electrolytes are disclosed in col. 7. The pH of the dispersion is controlled in order to either afford or prevent coagulation of the composition.

In the final steps the rubber composition is coagulated, and separated from the dispersion by filtration, washed with water and dried.

The disclosure of KONDO does not specify when exactly the filler is added to the composition, however since instant claims do not provide such specific limitation the prior art of KONDO anticipates claims rejected above.

6. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by KONNO (US 20040030027)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

See Arguments in Paragraph 3 of this office action.

7. Claims 1, 2, 5-20 are rejected under 35 U.S.C. 102(a) as being anticipated by GORL (US 6,882,036) in view of evidence provided in THIBON (US 2,656,250).

The prior art of GORL discloses composition and process of making composition, wherein composition comprises diene based rubber and inorganic filler.

In the process of GORL, first a filler suspension is formed (col. 3), wherein the filler is siliceous filler as listed in col. 6. Examples include alumina, clays, titanium dioxide and the like. The suspension is optionally mixed with organosilane coupling agent and surface active compound, wherein surface active compound carries charge and according to teachings of GORL these surfactants can be cationic, non-ionic or anionic (col. 6).

One of the fillers in the teachings of GORL is alumina monohydrate. Although the prior art of GORL does not disclose the specific method in which such compounds can be obtained, Bayer process, which was well established back in 1950's utilizes sodium aluminate as a precursor that undergoes hydrolysis in presence of seeding agent to obtain alumina filler suitable for use in rubber composition (see THIBON reference US 2,656,250).

To this dispersion an emulsion of diene rubber is added, mixed and precipitated or coagulated. Coagulation of the rubber containing inorganic particulate is afforded by the addition of pH changing compound such as acid or base. As a result of such addition, pH is adjusted to the range of 4-7 (col. 3, 4 and 7).

Rubber of GORL includes rubbers containing polystyrene, SBR, olefin based rubber, NR, nitrile containing rubbers and polybutadiene (examples, col. 3 and 7). Resultant rubber particles have average diameter of 25-3000 microns (col. 7). Col. 7 of GORL further teaches that the rubber component can be modified rubber containing functional groups. The functional groups listed in the teachings of GORL include carboxylate group, epoxy, chlorinated rubber, and the like. Additives include zinc oxide, stearic acid, plasticizers, anti-sagging agents, curatives, stabilizers and the like.

In the final step, the rubber is filtered and dried to afford particulate rubber containing inorganic filler.

In the light of the above disclosure, the prior art of GORL anticipates claims rejected above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 1, 2, 5-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over GORL (US 6,882,036) in view of evidence provided in THIBON (US 2,656,250).

The prior art of GORL discloses composition and process of making composition, wherein composition comprises diene based rubber and inorganic filler.

In the process of GORL, first a filler suspension is formed (col. 3), wherein the filler is siliceous filler as listed in col. 6. Examples include alumina, clays, titanium dioxide and the like. The suspension is optionally mixed with organosilane coupling agent and surface active

compound, wherein surface active compound carries charge and according to teachings of GORL these surfactants can be cationic, non-ionic or anionic (col. 6).

To this dispersion an emulsion of diene rubber is added, mixed and precipitated or coagulated. Coagulation of the rubber containing inorganic particulate is afforded by the addition of pH changing compound such as acid or base. As a result of such addition, pH is adjusted to the range of 4-7 (col. 3, 4 and 7).

Rubber of GORL includes rubbers containing polystyrene, SBR, olefin based rubber, NR, nitrile containing rubbers and polybutadiene (examples, col. 3 and 7). Resultant rubber particles have average diameter of 25-3000 microns (col. 7). Col. 7 of GORL further teaches that the rubber component can be modified rubber containing functional groups. The functional groups listed in the teachings of GORL include carboxylate group, epoxy, chlorinated rubber, and the like. Additives include zinc oxide, stearic acid, plasticizers, anti-sagging agents, curatives, stabilizers and the like.

In the final step, the rubber is filtered and dried to afford particulate rubber containing inorganic filler.

The prior art of THIBON further teaches how one of ordinary skill in the art can obtain alumina fillers-suitable for use in rubber compositions.

According to the teachings of THIBON, the Bayer process, was well established back in 1950's, which process utilizes sodium aluminate as a precursor, which undergoes hydrolysis in presence of seeding agent to obtain alumina filler suitable for use in rubber composition (see THIBON reference US 2,656,250). Process provides alumina filler having particle size of approximately 13 microns as taught in one of the examples.

Obtain alumina filler is then utilized in rubber composition and subjected to vulcanization.

In the light of the above disclosure it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize the alumina formed *via* Bayer process in the rubber composition. Use of such alumina in rubber compositions is contemplated by the prior art of record.

12. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over GORL (US 6,822,036) in view of TSUJI (US 6,807,941).

The discussion of the teachings of the prior art of GORL from paragraph 7 of this office action is incorporated here by reference.

The difference between the present invention and the teachings of GORL is recitation of different surfactants that can be suitable in rubber composition.

The prior art of GORL listed one example of surfactant that can be added to the filler and aid in the dispersion of the filler. Such compounds are also known as emulsifiers utilized in the polymerization of rubber.

With that in mind, the prior art of TSUJI discloses types of emulsifiers that are utilized in rubber emulsions. These include fatty acid soaps and rosinate soaps (col. 6). These compounds are not well known emulsifiers but also surface active agents. Using them in filler dispersion will improve dispersability of the filler within liquid media.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art at the time of the instant invention to utilize emulsifiers/surfactants of TSUJI in the

disclosure of GORL and thereby obtain the claimed invention. Use of anionic surfactants of TSUJI would still have the same effect as use of anionic surfactants disclosed in GORL. The dispersability of the filler would be improved. Selection of a known material based on its suitability for its intended use supports *prima facie* obviousness. *Sinclair & Carroll Co vs. Interchemical Corp.* 325 U.S. 327, 65 USPQ 297 (1945).

Specification

13. The amendment filed 3/30/2005 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The applicants amended specification on page 13 to recite "N,N-di-substituted aminoalkylacrylates" instead of "N,N-di-substituted amino acrylates". Term "alkyl" is viewed as new matter, since it encompasses all alkyls not covered by the teachings of the present invention. Examples provided by the applicants teach alkyl group to be lower alkyl such as methyl or ethyl. Support for higher alkyls is not within the bounds of applicant's disclosure.

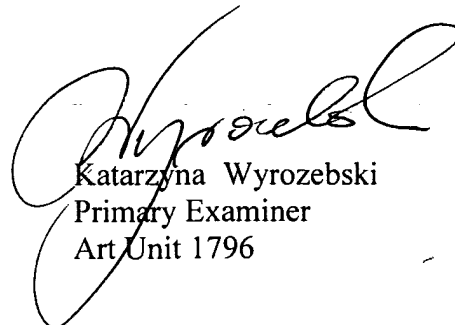
Applicant is required to cancel the new matter in the reply to this Office Action.

Priority documents – 371 documents have been received. JP priority documents have not been received.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 8:30 AM-2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Katarzyna Wyrozebski
Primary Examiner
Art Unit 1796

January 15, 2007